

CBSE Class 6 Maths Notes Chapter 10: The idea of measuring the size of forms and things is introduced in Mensuration, Chapter 10 of CBSE Class 6 Maths. Its main emphasis is on area and perimeter calculations. The perimeter of a closed figure, like a rectangle, square, or triangle, is its entire boundary length.

The perimeter of a rectangle is equal to $2 \times (\text{length} + \text{breadth})$, and the perimeter of a square is equal to $4 \times \text{side}$. The area, or the space encircled by a shape, is also covered in this chapter. Area is calculated as $\text{length} \times \text{width}$ for a rectangle and as $\text{side} \times \text{side}$ for a square. These ideas are reinforced by real-world examples.

CBSE Class 6 Maths Notes Chapter 10 Overview

Students should read Chapter 10 of CBSE Class 6 Maths, Mensuration, as it presents fundamental ideas of measuring that are important in daily life. Through the process of calculating the area and perimeter of forms such as triangles, squares, and rectangles, students get a fundamental understanding of spatial dimensions. This chapter provides practical applications, like measuring a room's space or building a garden fence, to promote logical thinking.

Comprehending these ideas aids in the development of students' problem-solving abilities, which facilitates their understanding of more complex material in upper-level classes. Furthermore, future applications in geometry, physics, and engineering are built around the capacity to compute perimeter and area. This chapter's practical approach guarantees that students may use what they have learnt in a variety of everyday circumstances outside of the classroom.

CBSE Class 6 Maths Notes Chapter 10 Mensuration

Below is CBSE Class 6 Maths Notes Chapter 10 Mensuration -

One area of mathematics that is covered in geometry is mensuration. It is the study of different geometric shapes, including 2D and 3D shapes, including their length, breadth, volume, and area. The terms that are relevant to this topic are discussed below.

Introduction to Mensuration

Mensuration

Mensuration is the branch of mathematics that deals with the measurement of various geometric shapes' lengths, areas, and volumes.

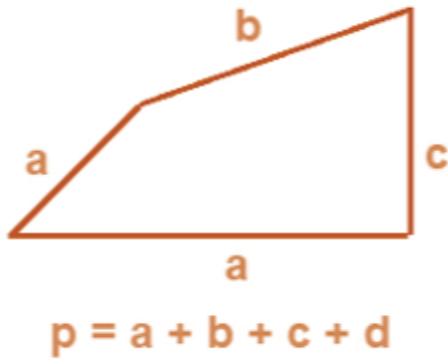
Shapes

An object's form is its shape.

The shapes square, rectangle, and triangle are examples of two-dimensional shapes; cube, cuboid, and sphere are examples of three-dimensional shapes.

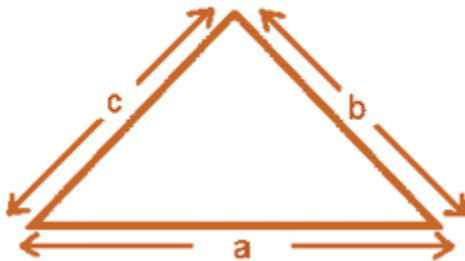
Perimeter

- Perimeter is the total length or total distance covered along the boundary of a closed shape.



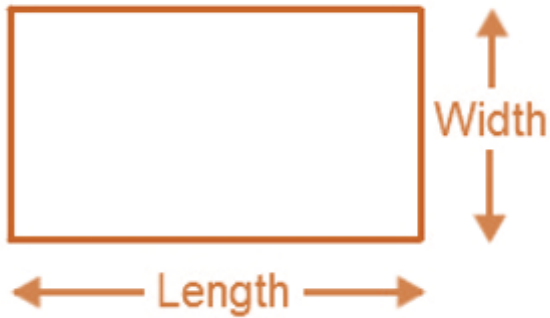
- Perimeter of a circle is also called as the circumference of the circle.

Perimeter of a Triangle



- Perimeter of triangle = Sum of lengths of all sides = $a + b + c$.
- If the given triangle is equilateral that is if all the sides are equal ($a = b = c$), then its perimeter is equal to $3 \times$ length of one side of the triangle.

Perimeter of a Rectangle



- Perimeter of the rectangle = length (l) + length (l) + width (w) + width (w)
= $2 \times [\text{length (l)} + \text{width (w)}]$

Perimeter of a Square



Perimeter of square = $4 \times \text{length of a side} = 4a$

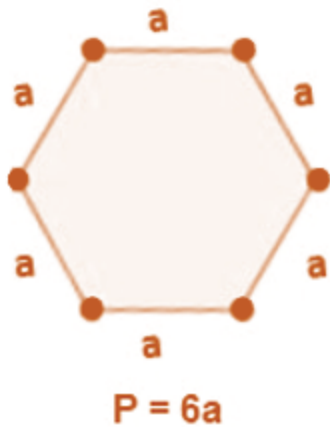
Perimeter of an 'n' Sided Polygon

A closed shape composed of line segments is called a polygon.

$n \times$ length of one side equals the perimeter of an n-sided polygon.

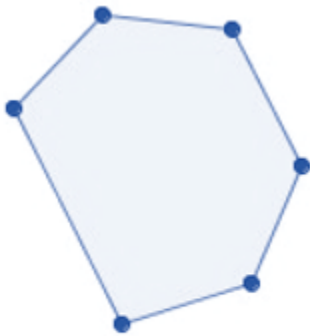
For instance: If a hexagon's side lengths are each one centimetre, then:

Hexagonal perimeter = $6a$ cm



Perimeter of Irregular Shapes

Shapes classified as irregular have non-equal angles and sides. The entire length that an irregular form covers is its perimeter. The perimeter of the following figure is equal to the sum of its sides.



Irregular Hexagon

Area

- Area is the total amount of surface enclosed by a closed figure.

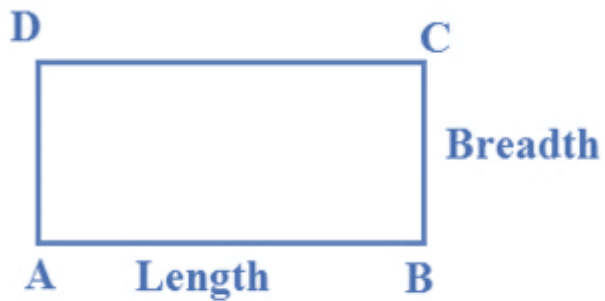
Area of Square

- Area of a square = Side \times Side = Side² = a², where a is the length of each side.



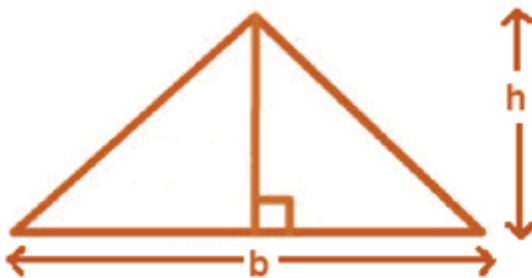
Area of Rectangle

- Area = length (l) \times breadth (b)



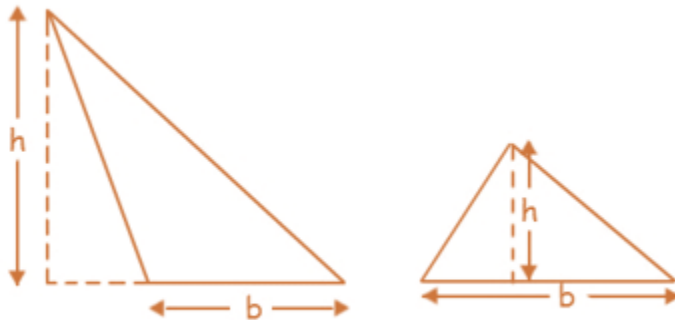
Area of Triangle

Area of triangle = $(1/2) \times \text{base} \times \text{height} = (1/2) \times b \times h$



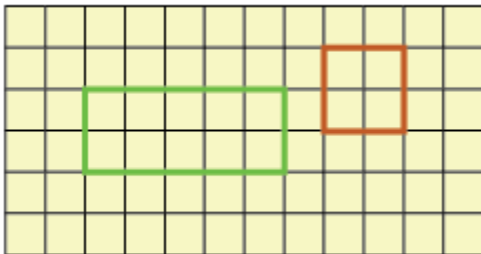
Areas of different types of triangles

- Consider an acute and an obtuse triangle.
Area of each triangle = $(1/2) \times \text{base} \times \text{height} = (1/2) \times b \times h$



Visualisation of Area

- In the given graph, if the area of each small square is 1 cm^2 , then
Area of rectangle = $l \times b = 5 \times 2 = 10 \text{ cm}^2$
Area of square = $a \times a = 2 \times 2 = 4 \text{ cm}^2$



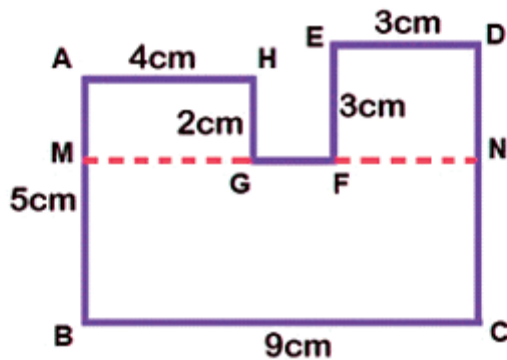
Area of Irregular Shapes

An irregular figure's area can be computed:

Step 1: Split the irregular shape into easily recognisable regular shapes (such as squares, rectangles, triangles, and circles).

Step 2: Add these individual shapes to the region you found. The area of the irregular figure will be the sum.

- Example: Area of the given figure = Area of MNCB + Area of AMGH + Area of EFND
 $= [5 \times 9 + 4 \times 2 + 3 \times 3] \text{ cm}^2$
 $= [45 + 8 + 9] \text{ cm}^2$
 $= 62 \text{ cm}^2$



Benefits of CBSE Class 6 Maths Notes Chapter 10

The benefits of studying Chapter 10, *Mensuration*, in CBSE Class 6 Maths include:

Foundation for Geometry: It provides the groundwork for understanding key geometric concepts such as perimeter and area, which are essential for higher-level mathematics.

Practical Applications: The knowledge gained from this chapter is useful in real-life situations like calculating areas for painting walls, flooring, or measuring land for construction.

Problem-Solving Skills: Students develop analytical and logical thinking by solving practical problems related to measurement.

Improves Spatial Understanding: Helps students visualize and understand the dimensions of various shapes, boosting their spatial awareness.

Future Readiness: The concepts learned are critical for advanced studies in fields like engineering, architecture, and design, making students ready for future academic challenges.

Boosts Accuracy in Measurements: It enhances precision when dealing with measurements, which is important for various practical tasks in everyday life.